

ILLEGIB

Approved For Release 2001/07/12 : CIA-RDP78T05439A000500090055-1

Approved For Release 2001/07/12 : CIA-RDP78T05439A000500090055-1

~~SECRET~~
NO FOREIGN DISSEM

CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE DIVISION
PHOTOGRAPHIC INTELLIGENCE REPORT

EXTERNAL DIMENSIONS OF A SOVIET "Z-V" CLASS SSB
AND A SOVIET "R" CLASS SS OBSERVED IN FLOATING
DRYDOCK, ROSTA, USSR

CIA/PIR-7001/65
MAY 1965



Declass Review by NIMA/DOD

~~SECRET~~
NO FOREIGN DISSEM

GROUP 1
Excluded from automatic
downgrading and declassification

SECRET

NO FOREIGN DISSEM

CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

CIA/PIR-7001/65

EXTERNAL DIMENSIONS OF A SOVIET "Z-V" CLASS SSB
AND A SOVIET "R" CLASS SS OBSERVED IN FLOATING
DRYDOCK, ROSTA, USSR

1. In summer 1964 a Soviet "Z-V" Class SSB and a Soviet "R" Class SS were photographed in a large floating dock at Rosta, USSR (69 02N-033 04E).

2. Photo/mensural analysis of selected small format photography has resulted in the approximate determination of certain external dimensions of these submarines. The specific dimensions requested are as follows:

Z-V Class

- a. Distance from keel to top of missile tube hatch - approximately 12.7 meters.
- b. Distance from the floor of the drydock (along submarine's centerline) to keel of submarine - approximately 1.6 meters.
- c. Diameter of the centerline propeller - approximately 1.7 meters.

R Class

- d. Maximum outside diameter of shroud over port propeller - approximately 1.7 meters.
- e. Minimum outside diameter of shroud over port propeller - approximately 1.6 meters.
- f. Maximum outside horizontal width of shroud surrounding starboard propeller - approximately 0.9 meters.

3. No starboard propeller was visible on the "Z-V" Class SSB. It could not be ascertained whether or not there is a starboard propeller shaft installed in this ship.

4. The methods employed to determine the measurements above were as follows:

Measurements 2a through 2c above

- a. The height of the drydock from the bottom of the outer draft mark to the top of the drydock wall was scaled directly from the visible meter marks.

SECRET

NO FOREIGN DISSEM

SECRET

NO FOREIGN DISSEM

CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

CIA/PIR-7001/65

b. Close examination of CIA 1025176 (the better of the two photos showing the "R" Class in the same drydock) revealed that the bottom edge of the outer draft mark was nearly even with the top of the drydock floor - since the waterline at the time this photo was taken appeared to be almost even with each of these levels. Hence, on photo #6 (CIA 1010574) it was assumed that the bottom edge of the outer draft marker was approximately in the same horizontal plane as the top of the drydock floor.

c. From the vertical draft marks the height of the handrail atop the drydock was scaled and determined to be approximately 1.0 meter - the height generally accepted for similar guard rails seen on Soviet submarines. It was then assumed that the actual height represented by this rail was 1.0 meter - regardless of what plane, in depth, it was imaged on the photography.

d. Using the height of the handrail (1.0 meter) above the catwalk extension over the submarine (roughly in the same plane as the submarine) this scale was used to determine: (1) the height (diameter) of the centerline propeller - approximately 1.7 meters; and (2) the height from the drydock floor to the keel of the submarine - approximately 1.6 meters. Using this same procedure (again on photo #6) the height of the light background on which the large Russian letters are painted was determined to be approximately 2.0 meters.

e. From photograph #8 (CIA 1010575) it was established that the light painted backgrounds for both the large Russian sign and the "SLOW SPEED" sign on the side of the drydock were approximately the same height - approximately 2.0 meters. Using both the height of the "SLOW SPEED" sign and the height of the handrail visible in photo #5 (CIA 1010576) it was determined that the height from the top of the drydock wall to the top of the missile tube hatch was approximately 4.3 meters. It should be noted that there was a difference of roughly 15-20 feet in depth between the plane containing the scaling values and the plane of the submarine's missile tube. Therefore, the 4.3 meters derived for this height probably represents a minimum dimension for this value.

f. The height from keel to top of missile tube hatch (12.7 meters) was derived by adding the heights representing the distance from the bottom of the draft marker to the top of the drydock wall (approximately 10.0 meters) - plus the distance from the top of the drydock wall to the top of the missile tube hatch (approximately 4.3 meters) - and subtracting from this total the height from the drydock floor to the keel (approximately 1.6 meters).

- 2 -

SECRET

NO FOREIGN DISSEM

SECRET

NO FOREIGN DISSEM

CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

CIA/PID-7001/65

Measurements 2d through 2f

g. It was assumed that the rudder of the "R" Class SS is identical to that of the "W" Class SS. Using the "W" Class Data Book dimensions of 3100 mm for the height of the rudder and 2320 mm for the length of the rudder a simple ratio was established to derive the external dimensions of the shrouding on the "R" Class on CIA photos 1025176-5177.

5. All measurements were made by the NPIC Technical Intelligence Division. Measurements given for the "Z-V" Class SSB are considered accurate to within plus or minus 0.2 meters; those dimensions derived for the "R" Class shrouding are considered accurate to within plus or minus 0.1 meter. TID mensuration was accomplished utilizing duplicate positive materials from the original negatives on the Nistri comparator. The CIA/PID photo analyst performed a cross-check on waterproofed print enlargements from the original negatives.

ENCLOSURES

- 4 Waterproofed Print Enlargements
(1 print each of CIA 1010573 thru CIA 1010576)
- 2 Annotated Acetate Overlays
(1 overlay each attached to CIA 1010574 and CIA 1010576)
- 3 Rough Diagrams Containing NPIC/TID Mensural Data

SECRET

NO FOREIGN DISSEM

SECRET
NO FOREIGN DISSEM

CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

REFERENCES

PHOTOGRAPHY

<u>PHOTO NUMBERS</u>	<u>DATE</u>	<u>CLASSIFICATION</u>
CIA 1010573-1010576	21 July 1964	SECRET NO FOREIGN DISSEM
CIA 1025176-1025177	3 August 1964	SECRET NO FOREIGN DISSEM

DOCUMENTS

<u>Data Book</u>	Soviet "W" Class Submarine	SECRET
------------------	----------------------------	--------

REQUIREMENT

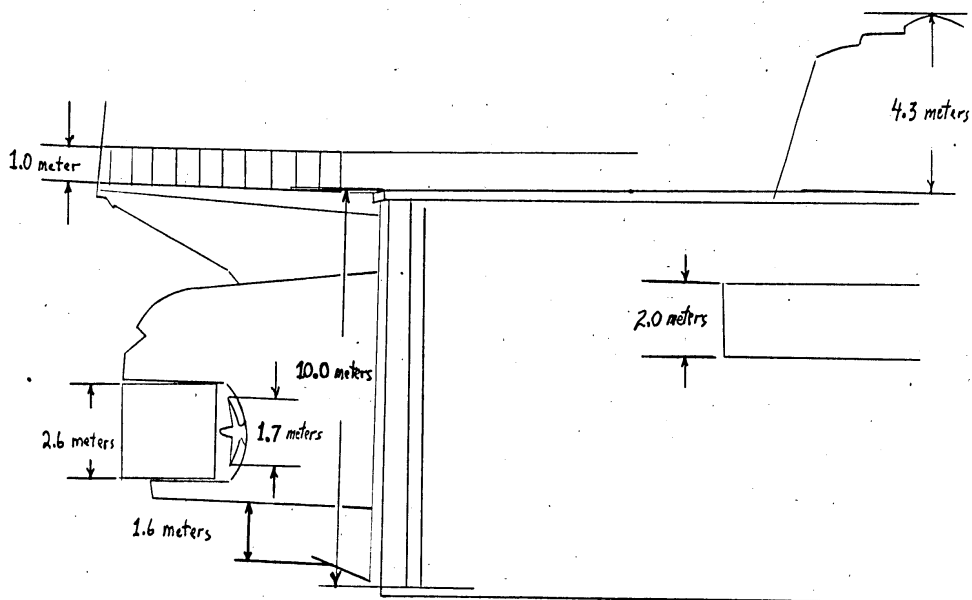
CIA. C-SI4-82,125

CIA/PID PROJECT

31075-4

SECRET-NO FOREIGN DISSEM

CIA/PID-7001/65



- NOTES: (1) Drawing is not to scale
(2) Accuracy - plus or minus 0.2 meter
(3) Mensuration performed by the Technical Intelligence Division, NPIC, from CIA photos 1010574 and 1010576 - cross-checked by CIA/PID photo analyst

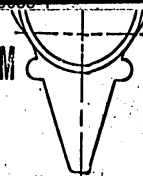
SECRET-NO FOREIGN DISSEM

CIA/PID-7001/65

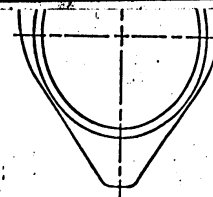
~~SECRET - NO FOREIGN DISSEM~~

NOTES: (1) Accuracy - plus or minus 0.1 meter

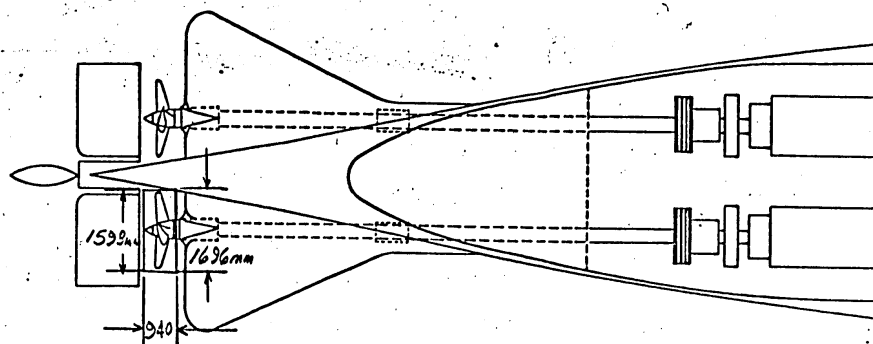
(2) Mensuration performed by the Technical Intelligence Division, NPIC, from CIA photos 1925176-1025177 - cross-check performed by CIA/PID photo analyst



SECTION M



SECTION K

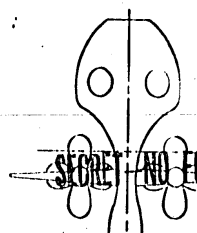


SECTION N

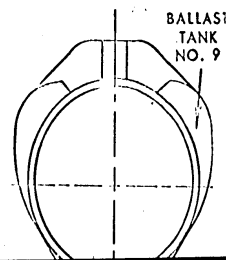
SECTION M

SECTION K

SECTION L



~~SECRET - NO FOREIGN DISSEM~~

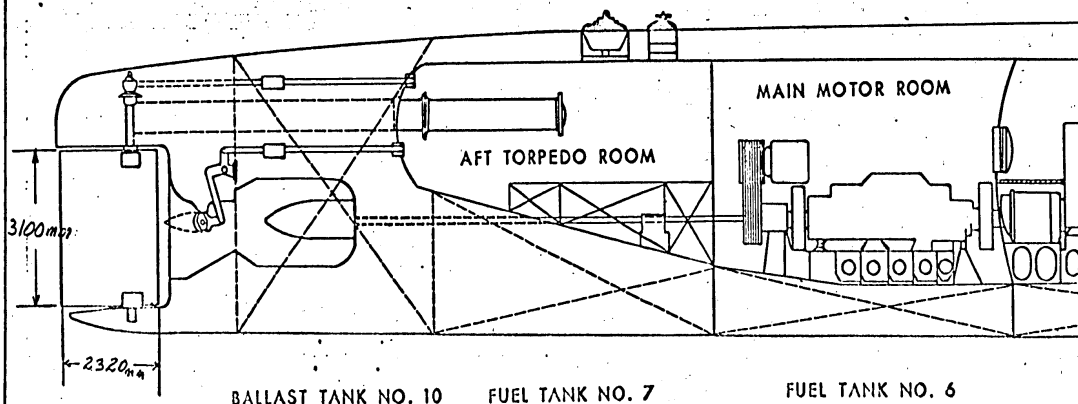


BALLAST
TANK
NO. 9

SECRET—NO FOREIGN DISSEM

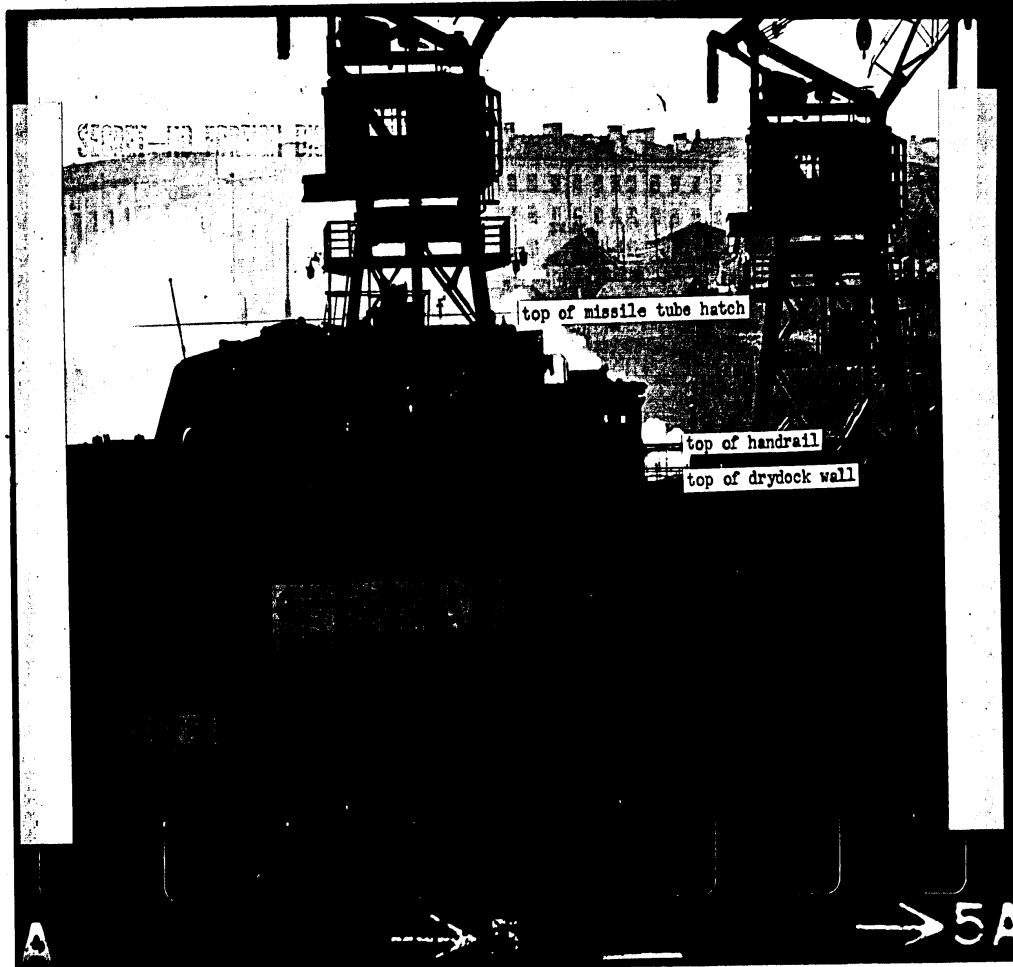
CIA/PID-7001/65

DIMENSIONS OF RUDDER FROM "W" CLASS DATA BOOK



SECRET—NO FOREIGN DISSEM

CIA/PID-7001/65 CIA 1010576



Approved For Release 2001/07/12 : CIA-RDP78T05439A000500090011
CIA/PID-7001/65 | CIA 1010573



CIA/PID-7001/65 CIA 1010575



CIA/PID-7001/65 || CIA 1010574

SECRET—NO FOREIGN DISSEM

handrail over submarine

handrail atop drydock wall

height of large Russian sign

meter marks

drydock floor beneath keel

bottom of draft marker

